

SIEMENS

PATENT
Attorney Docket No. 2003P00335US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE IN RE
APPLICATION OF:

Inventor:	Joachim Feld et al.)	Group Art Unit:	2619
)		
Serial No.:	10/789,069)	Examiner:	Weidner, Timothy J.
)		
Filed:	02/27/2004)	Confirmation No.:	9170
Title:	NETWORK DATA TRANSMISSION BASED ON PREDEFINED RECEIVE TIMES			

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APPELLANTS' BRIEF UNDER 37 CFR 41.37

Sir:

This brief is in furtherance of the Notice of Appeal filed in this application on April 17, 2008.

1. REAL PARTY IN INTEREST - 37 CFR 41.37(c)(1)(i)

The real party in interest in this Appeal is the assignee of the present application, Siemens Aktiengesellschaft.

2. RELATED APPEALS AND INTERFERENCES - 37 CFR 41.37(c)(1)(ii)

There is no other appeal, interference or judicial proceeding that is related to or that will directly affect, or that will be directly affected by, or that will have a bearing on the Board's decision in this Appeal.

3. STATUS OF CLAIMS - 37 CFR 41.37(c)(1)(iii)

Claims cancelled: None.

Claims withdrawn but not cancelled: None.

Claims pending: 1 - 18.

Claims allowed: none.

Claims rejected: 1 - 18.

Claims on appeal 1 - 18.

4. STATUS OF AMENDMENTS - 37 CFR 41.37(c)(1)(iv)

Following the Final Office Action mailed 17 January 2007, the Appellants filed an amendment and argument under 37 CFR 1.116 on 14 March 2008. As stated in the remarks accompanying the amendment, amendment was made to claim 10 to overcome a newly entered rejection under Section 112. In the Advisory Action mailed 2 April 2008 paragraph 7 indicates entry of the amendment with an explanation of how the amended claims would be rejected. However, no explanation or comment was provided regarding rejection of claim 10 under Section 112 and it thus appears that the rejection under Section 112 is withdrawn. However, the Advisory Action fails to expressly address withdrawal of this rejection.

5. SUMMARY OF THE CLAIMED SUBJECT MATTER- 37 CFR 41.37(c)(1)(v)

With reference by page and line number to the detailed description, the following summary describes one or more exemplary embodiments disclosed in the Specification and which are covered by specific claims, but it is to be understood that the claims are not so limited in scope.

5A. BRIEF BACKGROUND PROVIDING CONTEXT FOR THE SUMMARY OF CLAIMED SUBJECT MATTER

The invention relates to communication networks, e.g., packet-switching networks, wherein data packets, referred to as data telegrams, are assigned priorities and are transmitted in a cyclical operating mode. It has been conventional that individual transmission cycles comprise distinct sectors with at least one sector for transmitting real-time critical data and at least one sector for transmitting non-real-time critical data. Thus the real-time critical data has been separated from the non-real-time critical data. In such systems a common time base is employed to synchronize switching units so that sectors for transmitting data (e.g., within a cycle) occur at the same time. This way, realtime-critical communications take place simultaneously and independently of non-realtime-critical communications. The injection of data telegrams and the forwarding of data telegrams occur on a time-controlled basis. It is also conventional to employ buffering wherein some of the non-realtime-critical communication data packets are shifted into subsequent transmission cycles.

According to embodiments of the invention, data telegrams having a first priority (e.g., realtime-critical communications data telegrams) are sent during a first phase of a transmission cycle from first users to second users. The first phase is characterized by a defined receive time of the end of the respective data telegram at the second user. Generally, a first phase is defined during which the data telegrams assigned a first priority are transmitted and the first phase is characterized by a defined receive time of the end of the telegram at each respective user. This is advantageous because other data can be transmitted during time periods preceeding the start of each individual telegram for which the receive time of the end of the telegram is used to define the end of the phase.

This also differs from the prior art because the first phase is not characterized by a rigidly fixed start time which has resulted in receive times of the ends of respective telegrams at second users (telegram ends) being distributed over time in an uncoordinated manner. According to the invention, the first phase is instead characterized by a defined receive time of the end of the respective data telegram at the receiving (second) user. As used in the specification and claims, the term "*defined receive time*" is a pre-specified and planned receive time which is known in the system and which has been coordinated among the users. See page 4, lines 14-19. The defined receive time of the end of the respective data telegram thus enables optimized planning of the

transmission in a switchable data network of data having different priority, whereby the end of the first phase is defined on a coordinated basis between the users.

In some embodiments, only data telegrams assigned a second priority are sent in a second phase after the end of the first phase. The advantage of this is that, after highest-priority data telegrams sent in the first phase, data telegrams assigned the next-lower priority can preferably be sent in the second phase. The transmission of lower-priority data telegrams which could otherwise impede the transmission of the higher-priority data telegrams is thus avoided. On completion of the first phase, a second phase, namely the waiting time, is thus started during which lower-priority data telegrams can continue being blocked, but higher-priority data telegrams are let through. Said waiting time is advantageously selected to be of the same length as the overall time for forwarding a data telegram from the user at the beginning of a transmission link to the user at the end of a transmission link within the data network. This embodiment of the invention enables higher-priority data telegrams to be channeled through a switchable data network without any special planning requirements and with modest expenditure.

As the lengths of telegrams being transmitted are known in the system, and hence in the individual users, the transmission of telegrams can be planned and implemented in such a way that the time of the end of transmission of telegrams in the respective receiving users and hence also the time of the end of the first phase is defined. A time defined in this way for the end of the first phase could, for example, be the same time for all users, which is to say the transmission of all telegrams in the data network ends at the same previously defined time. If the respective routing times are additionally taken into consideration, it is possible to achieve an end of transmission of the respective telegrams which coincide, i.e., appear flush in the place-time diagram. Defined times of the end of transmission of a telegram in the respectively receiving user and hence also the times of the end of the first phase in the receiving user are therefore in each case displaced by the routing times in relation to the respective time at the sending user.

5B. CONCISE EXPLANATION OF SUBJECT MATTER DEFINED IN EACH
INDEPENDENT CLAIM

5B(i). Summary of Subject Matter Defined In Independent Claim 1

In accord with Figures 1,2 and 4, **independent claim 1**, directed to a method for transmitting data in a switchable data network, e.g., system 15 (page 11, lines 18 - 24), includes (i) assigning priorities to data telegrams (70 - 77) having a beginning and an end and (ii) sending the data telegrams (70 - 77) assigned a first priority (IRT telegrams 75, 76, 77) during a first phase from first users (1 - 3) to second users (2 - 4). See page 11, line 33 - page 12, line 2. For each telegram assigned a first priority (IRT telegrams 75, 76, 77), transmission during the first phase is characterized by an end time based on a defined receive time of the end of the respective data telegrams at one of the second users (page 12, lines 2 - 6).

5B(ii). Summary of Subject Matter Defined In Independent Claim 6

Also, in accord with Figures 1, 2 and 4, **independent claim 6** is directed to a system for transmitting data in a switchable data network, e.g., system 15 of Figure 1. See page 11, lines 18 - 24. The system includes users (1 - 4) having mechanisms for sending, receiving, and/or forwarding data telegrams, wherein the telegrams (70 - 77) each have a beginning and an end and wherein the telegrams are assigned priorities (IRT, NRT, SRT). See page 12, lines 6 - 30. Telegrams (75, 76, 77) assigned a first priority are sent from first users (1 - 3) to second users (2 - 4) during a first phase (see page 11, line 33 - page 12, line 2) with the first phase being characterized by an end based on a pre-defined receive time of the end of each sent data telegram at one of the second users (2 - 4). See page 12, lines 2 - 6.

5B(iii). Summary of Subject Matter Defined In Independent Claim 10.

Also with reference to Figures 1, 2 and 4, the switchable data network (e.g., network 15 of Figure 1) of **independent claim 10** includes mechanisms for sending, receiving, and/or forwarding data telegrams during cyclical transmission intervals. The telegrams 70 - 77 have beginnings and ends and the telegrams are assigned priorities (IRT, NRT, SRT). See page 12, lines 6 - 30. A first usable portion of a transmission interval (e.g., a clocked transmission cycle)

in the network is used during a first phase for sending data telegrams assigned a first priority from a first user to one or more second users (see page 11, line 33 - page 12, line 2), with the first phase having an end based on a pre-defined receive time for receipt of the end of a data telegram assigned the first priority at one of the second users. See page 12, lines 2 - 6.

6. GROUNDS OF REJECTION TO BE REVIEWED UPON APPEAL - 37 CFR 41.37(c)(1)(vi)

1. Whether claim 10 is indefinite under Section 112, despite amendment after final rejection, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In view of the Amendment filed under Rule 116 on 14 March 2008 and entered by the Examiner, this ground of rejection may have been withdrawn, but the Advisory Action mailed 2 April 2008 did not expressly so indicate, and out of caution, Appellants appeal the rejection of claim 10 on this ground.

2. Whether claims 1, 2, 4-7, 9, 10, 12, 14, 16 and 18 are unpatentable under 35 U.S.C. Section 102 as being anticipated by U.S. 5,960,001 (Schaffer).

3. Whether claims 3, 8, 11, 13, 15 and 17 are unpatentable under 35 U.S.C. Section 103 over Schaffer in view of U.S. 5,157,659 (Schenkel).

7. ARGUMENT 37 CFR 41.37(c)(1)(vii)

7A. PATENTABILITY OF EACH CLAIM IS TO BE SEPARATELY CONSIDERED

Appellants urge that patentability of each claim should be separately considered. All of the claims are separately argued. General argument, based on deficiencies in the rejection of independent claims 1, 6 and 10 under Section 102 demonstrates patentability of all dependent claims. However, none of the rejected claims stand or fall together because each dependent claim further defines a unique combination that patentably distinguishes over the art of record. For this reason, the Board is requested to consider each argument presented with regard to each dependent claim. Argument demonstrating patentability of each dependent claim is presented under subheadings identifying each claim by number.

7B. APPELLANTS TRAVERSE THE REJECTION OF CLAIM 10 UNDER SECTION 112.

The Final Office Action presented rejection of claim 10 under Section 112 for the first time, apparently based on use of the phrase "usable portion" in the claim preamble. The basis for rejection was not clearly articulated and appears to the Appellant to be without rational basis. To expedite allowance, Appellants removed that language from the preamble in the amendment filed under 37 CFR 1.116. As a result there is no potential conflict of meaning with respect to use of the phrase "a first usable portion of a transmission interval in the network" in the body of claim 10. The Examiner has entered the amendment under 37 CFR 1.116 but has not specifically addressed the rejection under Section 112. For clarification, the Board is requested to overturn this rejection.

7C. OVERVIEW OF ARGUMENT RELATING TO PRIOR ART REJECTIONS

The claimed invention differs markedly from the prior art. For example embodiments, packet switching networks and associated methods have data packet (telegram) transmissions in which a cyclical transmission interval includes a first phase having an end based on a predefined receive time for receipt of the end of a high priority (e.g., real-time critical) data telegram. In contrast to this (see pages 10 and 11 of the patent specification) prior art scheduling has been based on common start times for real-time critical telegrams of different lengths. Such scheduling precludes transmission of lower priority data packets (e.g., SRT and NRT telegrams) at or near the start of the first phase. Thus, after the higher priority (e.g., IRT) telegrams are sent, the remaining time in the phase or cycle may be used for the lower priority telegrams. This scheduling design cannot prevent blocking of, for example, an SRT telegram 56 by a NRT telegram 59 in a given transmission cycle, in which case the SRT telegram is forwarded in the next transmission cycle. The consequent undesired transmission sequence in the conventional network is a direct result of the common start time of high priority (e.g., IRT) telegrams of differing lengths.

7D. APPELLANTS TRAVERSE ALL REJECTIONS BASED IN WHOLE OR PART ON THE SCHAFFER REFERENCE.

7D(1) REJECTION OF THE INDEPENDENT CLAIMS 1, 6 AND 10 UNDER
SECTION 102 BASED ON THE SCHAFFER REFERENCE IS IN ERROR.

BRIEF DISCUSSION OF THE SCHAFFER REFERENCE

The Schaffer reference relates to protocol permitting transmission of isochronous data based on periodic time slots, and transmission of non-isochronous data, taking into account the reserved time slots. See Abstract. Also as described in the abstract, periodic time slots reserved for the isochronous data transmission may be added to a randomly chosen back-off window. If a back-off window expires, it may be restarted upon completion of the reserved period.

For example, a device wishing to transmit isochronous data can reserve periodic time slots for the transmission. Either the device or a network controller transmits the reservation information to other devices on the network. When non-isochronous transmissions are desired, the devices contend for access using the CSMA/CD protocols, but taking into account the already reserved time slots. For example, the randomly chosen backoff window period may be added to a remaining period for the reserved period. Alternatively, if a backoff window expires during a reserved period, the backoff window may be restarted upon completion of the reserved period. With reference to Col. 3, lines 26 ff, if a particular node needs to send a data message according to normal Ethernet protocols, that node knows that the time slots for isochronous data (marked by the X in FIG. 1a) are already reserved, but it can contend for any of the free time not so marked. If no other node transmits during this time, the node can send a message. If, however, data from the node collides with data from another node, the nodes resolve the collision using standard Ethernet protocols, with the exception that they will not transmit during the time already allocated. If a non-isochronous transmission cannot be completed prior to the beginning of the next reserved period, the non-isochronous transmission will not be allowed to occur. If a backoff window expires during a reserved time period X, the backoff window may be re-started upon expiration of the reserved period. Alternatively, the reserved period remaining may be added to the expired backoff window period.

The foregoing clearly relates to isochronous and non-isochronous transmission, but none of the foregoing concerns relative phases for separate transmission of realtime-critical and non-realtime-critical data. Nor does the prior art suggest the general tenet of a first phase (for high priority time critical data) having an end based on a pre-defined receive time for receipt of the

end of a data telegram assigned the first priority at one of the second users. Moreover, it must be noted that the Schaffer reference does not relate to sending of individual data telegrams within a transmission interval, e.g., in a first phase or a first usable portion. For example, as recited in claim 10, it is in this context that Appellants require, e.g., a first phase, having an end based on a pre-defined receive time for receipt of the end of a telegram. In contrast to this, the Schaffer reference concerns identifying and using time slots other than those reserved for isochronous data in order to transmit non-isochronous data. The Schaffer reference does not at all relate to use of phases for realtime-critical data which allow for transmission of non-realtime-critical data at or near the beginning of the corresponding phase.

GENERAL BASIS TO OVERTURN ALL REJECTIONS UNDER SECTION 102

In order to sustain the rejection of independent claims 1, 6 AND 10 under Section 102 it is necessary to clearly identify the particular part of the reference relied upon. As stated in 37 CFR 1.104(c)(2), when a reference is complex or shows or describes inventions other than that claimed by the applicant, the particular part of the reference relied upon must be designated as nearly as practical. The Schaffer reference discloses multiple embodiments and features which require individual analysis to confirm whether every element in each claim is present. More is required to show anticipation.

MPEP §2131 provides that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. The identical invention must be shown in as complete detail as contained in the claim. The elements must be arranged as required by the claim. It is improper for the Examiner to contend that a reference implies a disclosure of the invention when the Examiner is actually drawing an improper inference.

7D(1)i REJECTION OF INDEPENDENT CLAIM 1 UNDER SECTION 102 BASED ON THE SCHAFFER REFERENCE IS IN ERROR.

Application of the Schaffer reference to reject claim 1 under Section 102 is deficient under the criteria for anticipation. The method of claim 1 requires sending data telegrams assigned a first priority during a first phase ... wherein ... for telegrams assigned a first priority:

"transmission during the first phase is characterized by an end time based on a defined receive time of the end of the respective data telegrams at one of the second users."

The above quoted recitation is not suggested in the prior art. The final rejection of claim 1 asserts that Shaffer, at col. 4, line 49 – col. 5, line 10 discloses

"an isochronous transmission on the bus has just terminated"

but this is taken out of context and provides no meaningful basis to anticipate the claim. All data packet transmissions have an end. This is not the invention. So merely finding reference to a termination of a data packet does not provide disclosure of the above-quoted feature. The citation does not provide sufficient disclosure to meet the above-quoted terms of claim 1.

Also, the sentence following the above-quoted language states that if an isochronous transmission on the bus has just terminated, the network device may wish to transmit non-isochronous data." See col. 4, lines 59-61. This has nothing to do with what is claimed, and is clearly different than what is claimed.

To be potentially relevant, the Schaffer reference would have to disclose something about an end time of time slots based on the receive time of the ends of telegrams. To the contrary, the reference merely addresses other time slots for transmission of non-isochronous data. Shaffer does not reference multiple data telegrams assigned the same priority and transmitted in a phase based on a defined receive time of the end of the data telegrams. Rather, the Schaffer reference merely suggests what Appellants regard as well known - that when one (i.e., an) isochronous transmission has terminated, the network device may wish to transmit nonisochronous data in other time slots. There is no disclosure that this might end a phase of transmitting telegrams of a first priority, e.g., to the exclusion of sending further transmissions of the first priority.

Reference is now also made to the same text cited by the Examiner at col. 4, lines 61-64 wherein it is stated that there may be a collision with data frames from another network device. From this text it appears that the Schaffer reference does not necessarily end a phase of isochronous transmissions but, rather, merely discloses that nonisochronous data may be inserted on a piecemeal basis when individual transmissions of isochronous data packets are terminated.

Also, with regard to the Schaffer reference, the Appellants disagree with the Examiner's statement in the Advisory Action that the mere end of one transmission in a network in which

many isochronous transmissions occur is the same as Appellants' claimed end of the first phase characterized by an end time based on a defined receive time of the end of the multiple respective data telegrams. The above-quoted recitation requires multiple telegrams each sent to a second user. That is, the claimed end time is based on a defined receive time of the end of the multiple "respective data telegrams ..." There can be no basis for equating the citations from Schaffer with the claimed subject matter.

For all of these reasons, it has not been possible to read claim 6 on the Schaffer reference and the rejection must be overturned.

7D(1)ii REJECTION OF INDEPENDENT CLAIM 6 UNDER SECTION 102 BASED ON THE SCHAFFER REFERENCE IS ALSO IN ERROR.

Application of the Schaffer reference to reject claim 6 under Section 102 is also deficient under the criteria for anticipation. The system of claim 6 for transmitting data in a switchable data network, assigns priorities to the telegrams, and

"telegrams assigned a first priority are sent from first users to second users during a first phase with the first phase being characterized by an end based on a pre-defined receive time of the end of each sent data telegram at one of the second users."

First it is noted that the above-quoted recitation requires multiple telegrams each sent to a second user with "the first phase being characterized by an end based on a pre-defined receive time of the end of each sent data telegram ..." Just as noted for similar language in claim 1, the above quoted recitation is not suggested in the prior art. The final rejection of claim 6 asserts that Shaffer, at col. 4, line 49 – col. 5, line 10 discloses

"an isochronous transmission on the bus has just terminated"

which, as already noted, is merely taken out of context and provides no more than a failed attempt to find pieces of the claimed subject matter as though they are combined according to the teachings of the Apellants. Again, all data packet transmissions have an end and such an observation has no bearing on allowability of claim 6 So merely finding reference to a termination of a data packet does not provide disclosure of the above-quoted feature. The citation does not provide sufficient disclosure to meet the above-quoted terms of claim 6.

As urged with respect to the rejection of claim 1, the sentence following the above-quoted language in Schaffer states that if an isochronous transmission on the bus has just terminated, the network device may wish to transmit non-isochronous data.” See col. 4, lines 59-61. This has nothing to do with what is claimed, and is clearly different than what is claimed.

To be potentially relevant, the Schaffer reference would have to disclose something about an end time of time slots based on the receive time of the ends of telegrams. To the contrary, the reference appears to address selection of other time slots for transmission of non-isochronous data. Shaffer does not reference multiple data telegrams assigned the same priority and transmitted in a phase based on a defined receive time of the end of the data telegrams.

Rather, the Shaffer reference merely suggests what Appellants regard as well known - that when one (i.e., an) isochronous transmission has terminated, the network device may wish to transmit nonisochronous data in other time slots. There is no disclosure that this might end a phase of transmitting telegrams of a first priority, e.g., to the exclusion of sending further transmissions of the first priority. Reference is now also made to the same text cited by the Examiner at col. 4, lines 61-64 wherein it is stated that there may be a collision with data frames from another network device. From this text it appears that the Shaffer reference does not necessarily end a phase of isochronous transmissions but, rather, merely discloses that nonisochronous data may be inserted on a piecemeal basis when individual transmissions of isochronous data packets are terminated.

Also, with regard to the Schaffer reference, the Appellants disagree with the Examiner's statement in the Advisory Action that the mere end of one transmission in a network in which many isochronous transmissions occur is the same as Appellants' claimed end of the first phase characterized by an end time based on a defined receive time of the end of the multiple respective data telegrams. There is no basis for equating the citations from Schaffer with the claimed subject matter.

For all of these reasons, it has not been possible to read claim 6 on the Schaffer reference and the rejection must be overturned.

7D(1)iii REJECTION OF INDEPENDENT CLAIM 10 UNDER SECTION 102 BASED ON THE SCHAFFER REFERENCE IS ALSO IN ERROR.

For reasons similar or identical to those provided above with regard to claims 1 and 6, application of the Schaffer reference to reject independent claim 10 under Section 102 is also deficient under the criteria for anticipation. The data network of claim 10 concerns sending, receiving, and/or forwarding data telegrams during cyclical transmission intervals, wherein the telegrams are assigned priorities. A first usable portion of a transmission interval in the network is used during a first phase for sending data telegrams assigned a first priority from a first user to one or more second users:

"with the first phase having an end based on a pre-defined receive time for receipt of the end of a data telegram assigned the first priority at one of the second users."

As noted above the prior art Schaffer reference says nothing about ending a phase based on a predefined receive time for receipt of the end of a telegram at one of the second users. Again, as for claims 1 and 6, the final rejection of claim 10 asserts that Shaffer, at col. 4, line 49 – col. 5, line 10 discloses

"an isochronous transmission on the bus has just terminated"

which, taken out of context, really provides no more than an attempt to find one piece of the claimed subject matter without relation to the claimed combination. Because all data packet transmissions have an end, merely finding reference to a termination of a data packet does not provide disclosure of the above-quoted feature. The citation does not provide sufficient disclosure to meet the above-quoted terms of claim 10.

As urged with respect to the rejection of claims 1 and 6, the sentence following the above-quoted language in Schaffer states that if an isochronous transmission on the bus has just terminated, the network device may wish to transmit non-isochronous data." See col. 4, lines 59-61. This has nothing to do with what is claimed, and is clearly different than what is claimed.

To be potentially relevant, the Schaffer reference would have to disclose something about an end time of time slots based on the receive time of the ends of telegrams. To the contrary, the reference appears to address selection of other time slots for transmission of non-isochronous

data. Shaffer does not reference multiple data telegrams assigned the same priority and transmitted in a phase based on a defined receive time of the end of one of the data telegrams.

Rather, the Shaffer reference merely suggests what Appellants regard as well known - that when one (i.e., an) isochronous transmission has terminated, the network device may wish to transmit nonisochronous data in other time slots. There is no disclosure that this might end a phase of transmitting telegrams of a first priority, e.g., to the exclusion of sending further transmissions of the first priority. Reference is now also made to the same text cited by the Examiner at col. 4, lines 61-64 wherein it is stated that there may be a collision with data frames from another network device. From this text it appears that the Shaffer reference does not necessarily end a phase of isochronous transmissions but, rather, merely discloses that nonisochronous data may be inserted on a piecemeal basis when individual transmissions of isochronous data packets are terminated.

Also, with regard to the Schaffer reference, the Appellants disagree with the Examiner's statement in the Advisory Action that the mere end of one transmission in a network in which many isochronous transmissions occur is the same as Appellants' claimed end of the first phase characterized by an end time based on a defined receive time of the end of the multiple respective data telegrams. There is no basis for equating the citations from Schaffer with the claimed subject matter.

For all of these reasons, it has not been possible to read claim 10 on the Schaffer reference and the rejection must be overturned.

7D(2) THE REJECTION OF CLAIMS 3, 8, 11, 13, 15 AND 17 WHICH EACH DEPEND FROM CLAIM 1, CLAIM 6 OR CLAIM 18, UNDER SECTION 103 BASED ON THE SCHAFFER IN VIEW OF THE SCHENKEL REFERENCE IS ALSO IN ERROR.

Each of the claims depending from claims 1, 6 and 10 and rejected under section 103 defines distinct and non-obvious subject matter and further distinguishes the invention over the prior art.

7D(2)i. CLAIM 3 FURTHER DISTINGUISHES OVER THE COMBINATION OF
SCHAFFER IN VIEW OF SCHENKEL

Claim 3 which depends from independent claim 1 is allowable at least on the basis upon which claim 1 is allowable. Further, claim 3 requires that "the first phase is followed by a second phase and data telegrams assigned any priority are sent in a third phase after an end of the second phase." The Examiner relies upon col. 24, lines 28-46 of Schenkel for disclosing a third phase after the end of a second phase for sending telegrams assigned any priority. However, the claim is a combination wherein the first phase has an end time and the start of the second phase must depend on that end time which is not taught or suggested by the prior art. The deficiencies of the Schaffer reference are not compensated by the disclosure of the Schenkel reference and the rejection must be overturned because claim 3 further distinguishes over the prior art.

7D(2)ii. CLAIM 8 FURTHER DISTINGUISHES OVER THE COMBINATION OF
SCHAFFER IN VIEW OF SCHENKEL

Claim 8 which depends from independent claim 6 is allowable at least on the basis upon which claim 6 is allowable. Further, claim 8 requires that

"a second phase follows the first phase and the first users are provided with a third phase after an end of the second phase for sending data telegrams assigned any priority to the second users."

As done for claim 3, the Examiner relies upon col. 24, lines 28-46 of Schenkel for disclosing a third phase after the end of a second phase for sending telegrams assigned any priority. However, claim 8 is a combination wherein the first phase has an end time based on a pre-defined receive time and the start of the second phase must depend on that end time which is not taught or suggested by the prior art. The deficiencies of the Schaffer reference are not compensated by the disclosure of the Schenkel reference and the rejection must be overturned because claim 8 further distinguishes over the prior art.

7D(2)iii. CLAIM 11 FURTHER DISTINGUISHES OVER THE COMBINATION OF
SCHAFFER IN VIEW OF SCHENKEL

Claim 11 which depends from independent claim 10 is allowable at least on the basis upon which claim 10 is allowable. Further, claim 11 requires that "data telegrams assigned any priority are sent in a third phase after the end of the second phase." Support for this rejection also relies upon col. 24, lines 28-46 of Schenkel for disclosing a third phase after the end of a second phase for sending telegrams assigned any priority. However, claim 11 is a combination wherein the first phase has an end time based on a pre-defined receive time which is not taught or suggested by the prior art. The deficiencies of the Schaffer reference are not compensated by the disclosure of the Schenkel reference and the rejection must be overturned because claim 8 recites a combination which further distinguishes over the prior art.

7D(2)iv. CLAIM 13 FURTHER DISTINGUISHES OVER THE COMBINATION OF
SCHAFFER IN VIEW OF SCHENKEL

Claim 13 which depends from independent claim 3 is allowable at least on the basis upon which claim 10 is allowable. Further, claim 11 requires that "the first phase is cyclically repeated." Appellants are not claiming cyclical repetition out of context as the invention. Rather, the claim is a combination wherein the first phase has an end time based on a defined receive time of the end of the respective data telegrams at one of the second users. This is not the same as a periodic function such as disclosed by Schaffer.

7D(2)v. CLAIM 15 FURTHER DISTINGUISHES OVER THE COMBINATION OF
SCHAFFER IN VIEW OF SCHENKEL

Claim 15 which depends from independent claim 3 is allowable at least on the basis upon which claim 10 is allowable. Further, claim 15 requires that "data telegrams with realtime data are assigned the first priority." The rejection refers to Schaffer at col. 1, lines 50-59; col. 2, lines 11-16, but neither Schaffer nor Schenkel appear to recite the claimed subject matter. More importantly, the passage at col. 2, lines 11-16 is inconsistent with the claimed subject matter because it teaches a series of reserved periodic time slots as further explained at col. 2, lines 17-20. The claim is a combination wherein the first phase has an end time based on a defined

receive time of the end of the respective data telegrams at one of the second users. This is not the same as the time slots of Schaffer.

7D(2)vi. CLAIM 17 FURTHER DISTINGUISHES OVER THE COMBINATION OF SCHAFFER IN VIEW OF SCHENKEL

Claim 17 which depends from dependent claim 7 is allowable at least on the basis upon which claims 6 and 7 are allowable. Argument concerning allowability of claim 7 follows. Further, claim 17 requires that "the first users are provided during a third phase after the end of the second phase for sending data telegrams assigned any priority to the second users." This rejection also relies upon col. 24, lines 28-46, but as noted above with regard to claim 8, claim 17 is a combination wherein the first phase has an end time based on a pre-defined receive time and the start of the second phase must depend on that end time which is not taught or suggested by the prior art. The deficiencies of the Schaffer reference are not compensated by the disclosure of the Schenkel reference and the rejection must be overturned because claim 17 recites a combination which further distinguishes over the prior art.

7D(3) THE REJECTION OF CLAIMS 2, 4, 5, 7, 9, 12, 14, 16 AND 18 WHICH EACH DEPEND FROM CLAIM 1, CLAIM 6 OR CLAIM 10, UNDER SECTION 102 BASED ON THE SCHAFFER REFERENCE IS ALSO IN ERROR.

Each of the claims depending from claims 1, 6 and 10 and rejected under section 102 defines distinct and non-obvious subject matter and further distinguishes the invention over the prior art. To reject a claim under Section 103 the prior art combination must identify every claimed feature in the references and this burden has not been carried.

7D(3)i. CLAIM 2 FURTHER DISTINGUISHES OVER THE SCHAFFER REFERENCE.

Claim 2 which depends from claim 1 requires that only data telegrams assigned a second priority are sent in a second phase after the end of the first phase. The rejection cites col. 4 line 49 - col. 5, line 10 and col. 2, lines 11 - 16 as support for this, but it is not seen that the disclosure restricts the second phase to only telegrams assigned a second priority. Notwithstanding such, the claim is a combination which requires that the end time of the first phase be based on a defined receive time of the end of the respective data telegrams at one of the second users.

Accordingly, the start of the second phase must depend on that end time and this structure is not taught by the prior art.

7D(3)ii. CLAIM 4 FURTHER DISTINGUISHES OVER THE SCHAFFER REFERENCE.

Claim 4 which depends from claim 1 requires that the first phase is cyclically repeated. The rejection refers to Schaffer at col. 3, lines 14-26 but Appellants are not claiming cyclical repetition out of context as the invention. Rather, the claim is a combination wherein the first phase has an end time based on a defined receive time of the end of the respective data telegrams at one of the second users. This is not the same as a periodic function such as disclosed by Schaffer.

7D(3)iii. CLAIM 5 FURTHER DISTINGUISHES OVER THE SCHAFFER REFERENCE.

According to claim 5, data telegrams with realtime data are assigned the first priority. The rejection notes that Schaffer (col. 1, lines 50-59 and col. 2, lines 11-16) discloses isochronous data assigned certain time slots but the invention addresses phases characterized by an end time based on a defined receive time of the end of the respective data telegrams at one of the second users. Thus the claim cannot be anticipated.

7D(3)iv. CLAIM 7 FURTHER DISTINGUISHES OVER THE SCHAFFER REFERENCE.

Claim 7 is a combination including a second phase after the end of the first phase for exclusively sending data telegrams assigned a second priority to the second users. The rejection cites col. 4 line 49 - col. 5, line 10 and col. 2, lines 11 - 16 as support for this but it is not seen that the disclosure restricts the second phase to only telegrams assigned a second priority. Notwithstanding such, the claim is a combination which requires that the end time of the first phase be based on a pre-defined receive time of the end of each sent data telegram at one of the second users. Accordingly, the start of the second phase must depend on that end time and this structure is not taught by the prior art.

7D(3)v. CLAIM 9 FURTHER DISTINGUISHES OVER THE SCHAFFER REFERENCE.

According to claim 9, the realtime data is assigned the first priority. The rejection notes that Schaffer (col. 1, lines 50-59 and col. 2, lines 11-16) discloses isochronous data assigned

certain time slots but the invention addresses phases not time slots characterized by an end time based on a pre-defined receive time of the end of each sent data telegram at one of the second users. Thus the claim cannot be anticipated.

7D(3)vi. CLAIM 12 FURTHER DISTINGUISHES OVER THE SCHAFFER REFERENCE.

Claim 12 which depends from claim 1 requires that the first phase is cyclically repeated. The rejection refers to Schaffer at col. 3, lines 14-26 but Appellants are not claiming cyclical repetition out of context as the invention. Rather, the claim is a combination wherein the first phase has an end time based on a defined receive time of the end of the respective data telegrams at one of the second users. This is not the same as a periodic function such as disclosed by Schaffer.

7D(3)vii. CLAIM 14 FURTHER DISTINGUISHES OVER THE SCHAFFER REFERENCE.

According to claim 14, data telegrams with realtime data are assigned the first priority. The rejection notes that Schaffer (col. 1, lines 50-59 and col. 2, lines 11-16) discloses isochronous data assigned certain time slots but the invention addresses phases, not time slots characterized by an end time based on a pre-defined receive time of the end of each sent data telegram at one of the second users. Thus the claim cannot be anticipated.

7D(3)viii. CLAIM 16 FURTHER DISTINGUISHES OVER THE SCHAFFER REFERENCE.

According to claim 16, data telegrams with realtime data are assigned the first priority. The rejection notes that Schaffer (col. 1, lines 50-59 and col. 2, lines 11-16) discloses isochronous data assigned certain time slots but the invention addresses phases, not time slots for which an end time is based on a defined receive time of the end of the respective data telegrams at one of the second users. For this reason the claim cannot be anticipated.

7D(3)ix. CLAIM 18 FURTHER DISTINGUISHES OVER THE SCHAFFER REFERENCE.

According to claim 18, the realtime data is assigned the first priority. The rejection notes that Schaffer (col. 1, lines 50-59 and col. 2, lines 11-16) discloses isochronous data assigned certain time slots but the invention addresses phases, not time slots and the first phase is

characterized by an end based on a pre-defined receive time of the end of each sent data telegram at one of the second users. The claim cannot be anticipated. .

7F. CONCLUSIONS

Argument has been presented to demonstrate that the rejections under Section 102 and Section 103 and Section 112 are deficient and that the dependent claims further distinguish over the prior art. The Examiner has argued rejections when claimed features are absent from the references and not suggested by the prior art. Accordingly, none of the rejections can be sustained. For all of the above argued reasons, all of the rejections should be withdrawn and the claims should be allowed.

8. APPENDICES

An appendix containing a copy of the claims involved in this appeal is provided herewith. No evidence appendix or related proceedings appendix is provided because no such evidence or related proceeding is applicable to this appeal.

Respectfully submitted,

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9. APPENDIX OF CLAIMS ON APPEAL

1. A method for transmitting data in a switchable data network, comprising:
 assigning priorities to data telegrams having a beginning and an end; and
 sending the data telegrams assigned a first priority during a first phase from first users to second users wherein, for telegrams assigned a first priority, transmission during the first phase is characterized by an end time based on a defined receive time of the end of the respective data telegrams at one of the second users.
2. A method according to Claim 1, wherein only data telegrams assigned a second priority are sent in a second phase after the end of the first phase.
3. A method according to Claim 1, wherein the first phase is followed by a second phase and data telegrams assigned any priority are sent in a third phase after an end of the second phase.
4. A method according to Claim 1, wherein the first phase is cyclically repeated.
5. A method according to Claim 1, wherein data telegrams with realtime data are assigned the first priority.
6. A system for transmitting data in a switchable data network, comprising users having mechanisms for sending, receiving, and/or forwarding data telegrams, wherein the telegrams each have a beginning and an end and wherein the telegrams are assigned priorities, wherein telegrams assigned a first priority are sent from first users to second users during a first phase with the first phase being characterized by an end based on a pre-defined receive time of the end of each sent data telegram at one of the second users.
7. A system according to Claim 6, wherein the first users are provided with a second phase after the end of the first phase for exclusively sending data telegrams assigned a second priority to the second users.

8. A system according to Claim 6, wherein a second phase follows the first phase and the first users are provided with a third phase after an end of the second phase for sending data telegrams assigned any priority to the second users.

9. A system according to Claim 6, wherein the system for transmitting realtime data is provided in the switchable data network, with the realtime data being assigned the first priority.

10. A switchable data network comprising mechanisms for sending, receiving, and/or forwarding data telegrams during cyclical transmission intervals, wherein the telegrams have a beginning and an end and wherein the telegrams are assigned priorities, wherein a first usable portion of a transmission interval in the network is used during a first phase for sending data telegrams assigned a first priority from a first user to one or more second users, with the first phase having an end based on a pre-defined receive time for receipt of the end of a data telegram assigned the first priority at one of the second users.

11. A method according to Claim 2, wherein data telegrams assigned any priority are sent in a third phase after the end of the second phase.

12. A method according to Claim 2, wherein the first phase is cyclically repeated.

13. A method according to Claim 3, wherein the first phase is cyclically repeated.

14. A method according to Claim 2, wherein data telegrams with realtime data are assigned the first priority.

15. A method according to Claim 3, wherein data telegrams with realtime data are assigned the first priority.

16. A method according to Claim 4, wherein data telegrams with realtime data are assigned the first priority.

17. A system according to Claim 7, wherein the first users are provided during a third phase after the end of the second phase for sending data telegrams assigned any priority to the second users.
18. A system according to Claim 7, wherein the system for transmitting realtime data is provided in the switchable data network, with the realtime data being assigned the first priority.

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10. EVIDENCE APPENDIX - 37 CFR 41.37(c) (1) (ix)

None

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11. RELATED PROCEEDINGS APPENDIX - 37 CFR 41.37(c) (1) (x)

None